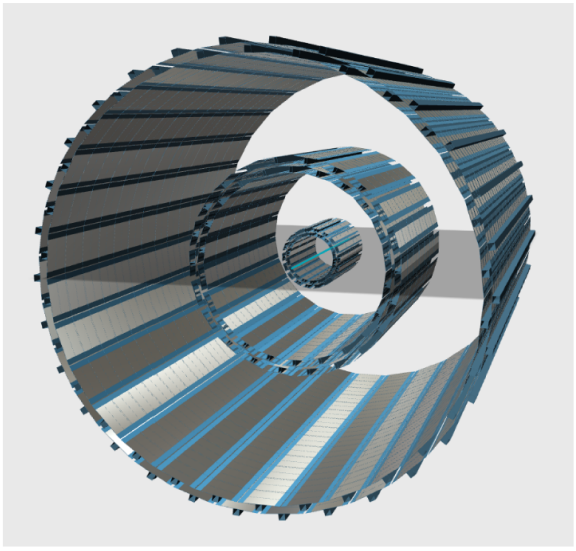
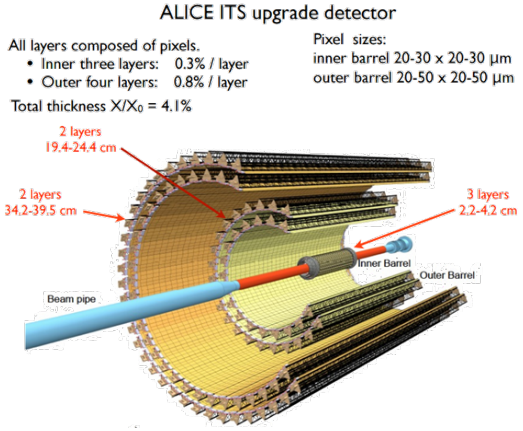
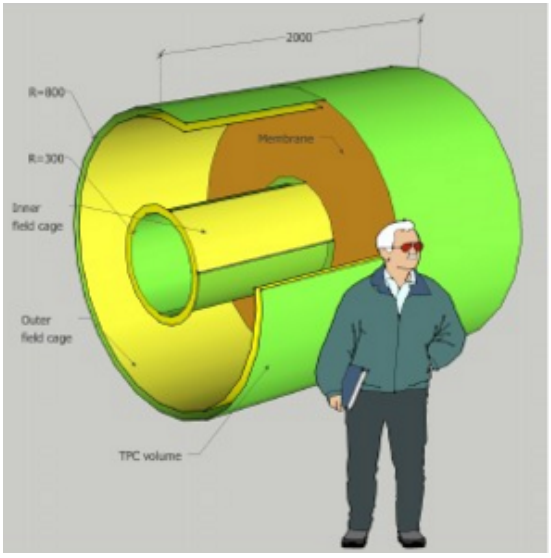
Welcome to MAPS Workshop!

- The Goal for next 3 days
  - Define and document the cost and schedule for the MAPS based tracking options under consideration for the sPHENIX detector.
    - Prepare for CD1 Review
- Possible MAPS detector configurations
  - Inner tracking only (+ Si-Strip/TPC)
  - Full tracking

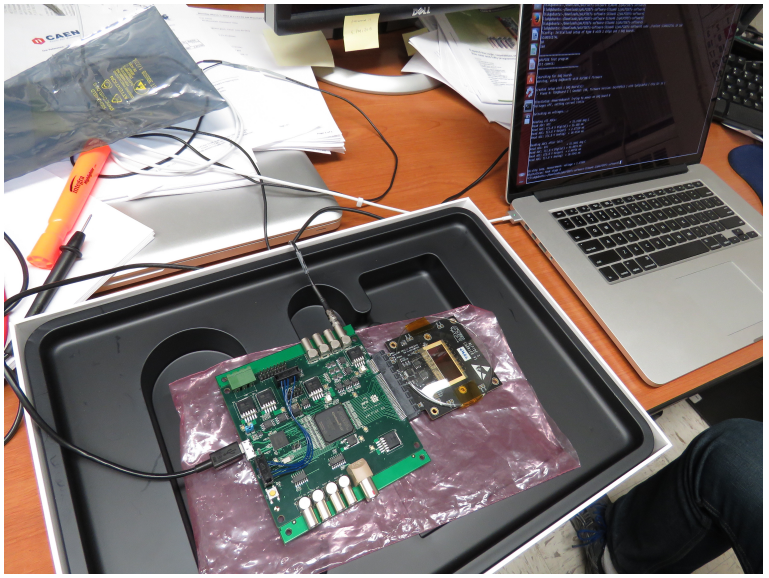


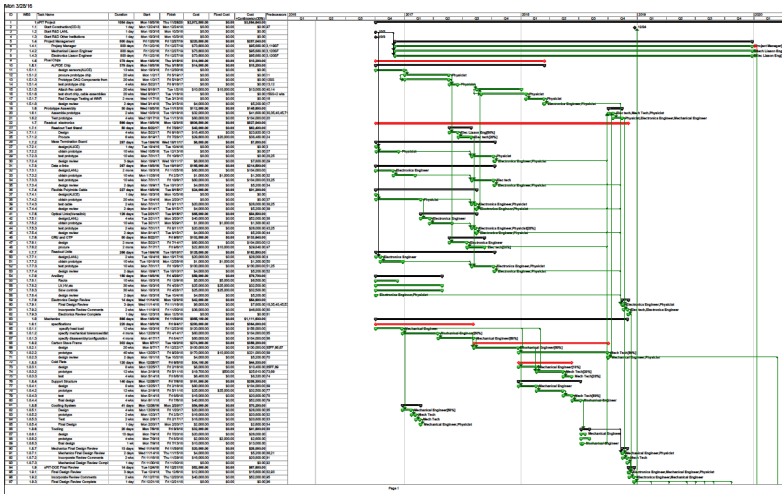




Recent Activities at LANL

- A MAPS evaluation test kit arrived @LANL early 3/2016
  - Readout being explored
  - Setup a new MAPS R&D lab
  - Acquiring a few more for telescope and multichip readout
  - Readout R&D for sPHENIX
- A LDRD submitted
  - Favorably reviewed so far …
  - To develop a prototype for sPHENIX
  - Develop readout interface boards:
    - MAPS <-> DCM-II (sPHENIX)
  - Take advantage of previous FVTX work
    - FVTX <-> DCM-II (PHENIX)
  - System integration
- Cost and Schedule
- Physics simulations and optimization





Many Thanks …

- Great help from ALICE ITS upgrade team
  - Luciano Musa
  - Leo Greiner
- sPHENIX collaboration
- LANL NP Office
  - Workshop support
  - Detector equipment fund
  - LDRD submitted for FY17-19

… and ALL of YOU!

At the Feb 2, 2016 Budget Briefing

Ed O'Brien
3/25/2016

At the sPHENIX Cost & Schedule Review Nov 2015, we presented a TPC of 75.1M AY$

Implementing the Review committees recommendations:

- Increase contingency on project scope from 25% to 40%
- Carry an additional $10M + 50% contingency in the event that no outside funding is identified.
  - Japan (SiTracker), NSF + additional international (Time Projection Chamber)
- Aggressively pursue outside funding for the Tracker.
- Scrub the Project for labor savings, identify outside funding sources, identify value engineering savings

Maximum DOE exposure assuming no additional funding from Japan, NSF, etc. 97M AY$

Identify savings through scrubbing, alternate funding etc, that brings the total to 75M AY$ including 40% contingency consistent with amount identified from RHIC Ops redirects

Addressing the increased budget

- Since the review we have scrubbed the budget as recommended. Labor costs were reduced by using appropriate University labor rates for EMCal and Inner HCal and other labor reductions where appropriate resulting in 6M AY$ savings.
- Plan in a 4M AY$ NSF MRI for EMCal electronics
- Plan a 10M AY$ equivalent (in DOE accounting) JSPS proposal for Si Tracking which is what has been submitted to the Japanese funding agency.
- Plan in 1M AY$ contribution in kind by international collaborators for Trigger devices
- Plan in 1M AY$ in value engineering savings from infrastructure, magnets, installation.
- Brings the total to 97M-22M = 75M AY$ with 40% contingency including a 5M AY$ contingency carried on the sPHENIX project budget for the Tracker.